

Assignment 1

Part 1:

1.2 The nodes are the hunters. The network relation the advice taken by each hunter, hence in-degree centrality

1.3 The nodes are the players on each basketball team, in an off-the-court state. The relation is the cohesion between the players

1.4 The nodes are countries. The network relations are trade relations between countries and bilateral defense agreements.

2.1

1. Dyadic
2. Node
3. Network
4. Network
5. Network
6. Network
7. Dyadic
8. Network
9. Network

2.2

1.
 - a) Explanatory: Attitudes about religion (non-network)
 - b) Outcome: Friendships (network)
2.
 - a) Explanatory: Structural position (network)
 - b) Outcome: Hunting success (non-network)
3.
 - a) Explanatory: Cohesion (network)
 - b) Outcome: Wins (non-network)
4.
 - a) Explanatory: trade relations (network)
 - b) Outcome: bilateral agreements (non-network)

5.
 - a) Explanatory: time of adoption (non-network)
 - b) Outcome: network centrality (network)
6.
 - a) Explanatory: centralized information sharing (network)
 - b) Outcome: sales (non-network)
7.
 - a) Explanatory: political views (non-network)
 - b) Outcome: friendship ties (network)
8.
 - a) Explanatory: type of network (network)
 - b) Outcome: task setting (non-network)

3.5

Similarities: Attribute

Relational role: Other role

Relational cognition: Affective

Relational events: Flows

3.8

Similarities: Participation

Relational role: Other role

Relational cognition: Perceptual

Relational events: Interaction

3.13

Similarities: Attribute

Relational role: Other role

Relational cognition: Affective

Relational events: Flows

Chapter 2

1.5 Directed

1.8 Directed

1.13 Undirected

Part 2:

a. Density: 0.139

b.

1. geodesic from member 7 to member 23: 4
2. Diameter: 5
3. The graph is connected because there is 1 component
4. The average geodesic distance is 2.34

4. The clustering coefficient is 0.256, which is greater than the network density, which means there is a presence of closure. The relationship *is* more likely to be present if each of two nodes is linked to a third

5. Member 34 is involved in the most relationships with 17, member 1 is second with 16 relationships. Member 12 has the least relationships with only 1. The distribution has the most members with 2-5 relationships, and then there are extremes with many relationships or only 1. Those with very many relationships may be the coaches.

6.

- a) size: 34
- b) density: 0.14 (c) diameter: 5 (d) # components: 1 (e) clustering coefficient: 0.256